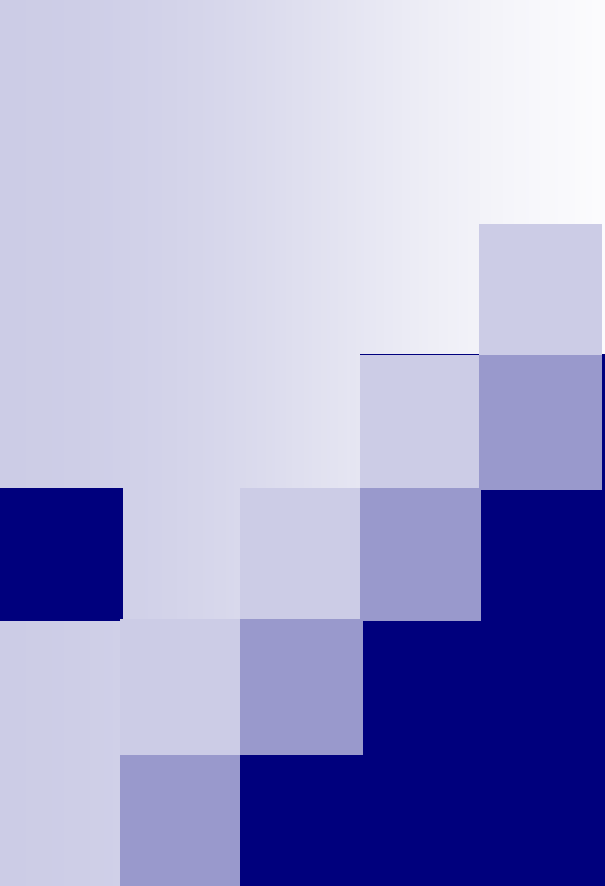


# General overview of The Gambia's Electricity Market and Regulatory Framework for Renewable Energy

M.L Sompo Ceesay

# Presentation

- Regulatory Framework
- Electricity Infrastructure issues
- Recommendations



# Regulatory Framework

*Everything is in place*

# PURA

- Multi-sector Regulator
  - Est. PURA Act 2001
    - Electricity/Water/Telcoms  
Transport, Broadcasting,  
Postal Services
- Board of Commissioners
  - Director General & 25  
Staff
- Quality of Service
- Tariff Regulation
  - Electricity efficiency
    - Apply & Set Performance  
Standards



# Sector Specific Legislation

## Electricity Act of 2005

*AN ACT to promote the development of the electricity sub-sector in The Gambia on the basis of the principles of a competitive and market-oriented economy, to regulate electricity service providers and the activities of persons required to be licensed and for matters connected therewith.*

# Regulatory Instruments

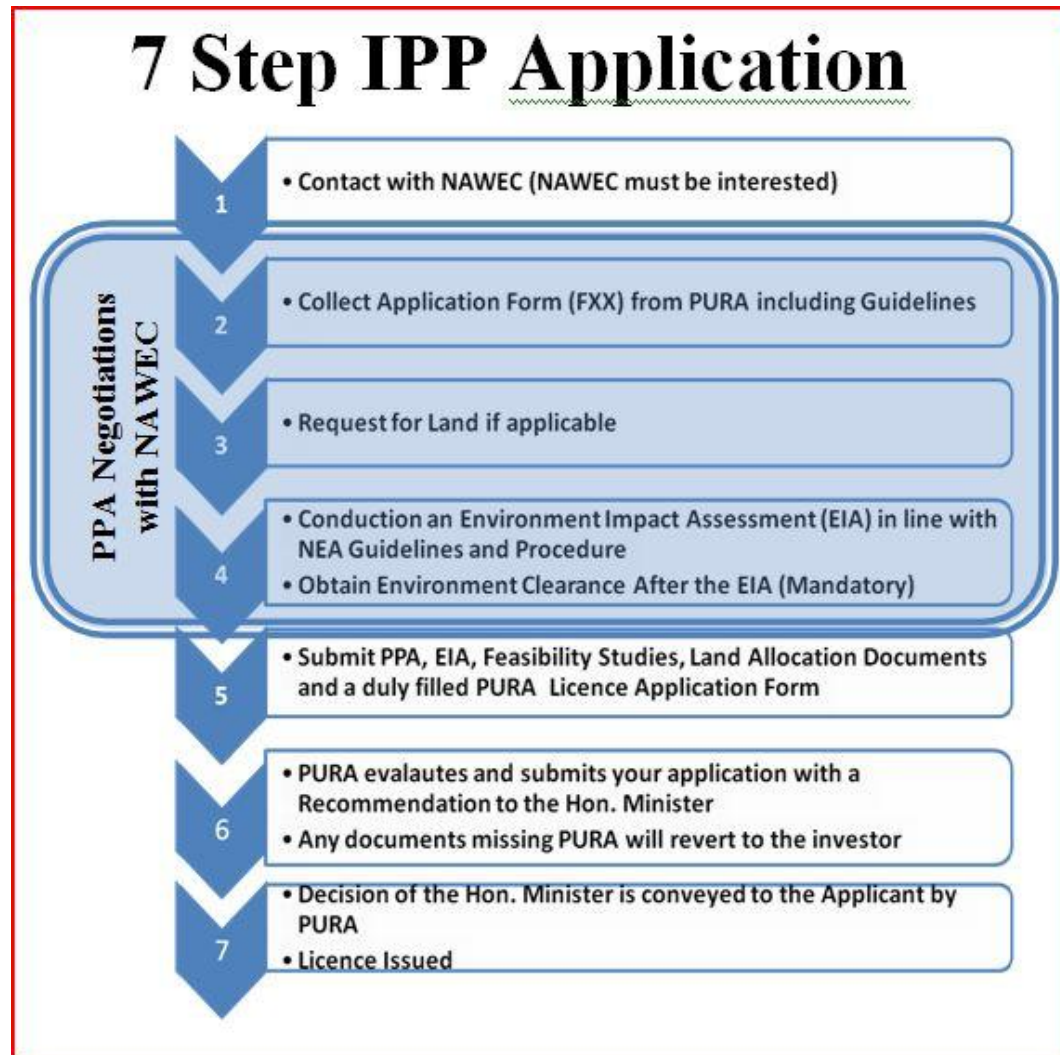
## ■ Licensing

- Electricity Act 2005
  - Generation
  - Transmission
  - Distribution
  - Dispatch
    - EIA, GIEPA, Feas.Study, Financial Resources etc
- Application Form
- Standards

## ■ Enforcement

- Enforcement Regulations
- Electricity Tariff Filing Guidelines
- HSE Guidelines
- Min. Quality of Services Guidelines

# Harmonized Licensing Sequence



# Policy Advice

- Policy Advice to Minister(s)
  - Electricity Sector Reform 2009
    - Mins. Of Energy
      - National Forum
  - Policy Advisory Note to MEPID 2010
  - Tariff Determinations
    - Non-tariff recommendations
      - Structural & Operations improvements



# Regulatory Interventions

- Historic Reduction of Tariffs in Nov. 2009
  - Tariff increase in 2011 (17%)
  - Tariff increase in 2012 (26%)
- Licences
  - Three IPPs
- Periodic Treks
  - Trek Reports of operating conditions
  - Quarterly visits to all Power plants

# Energy Efficiency



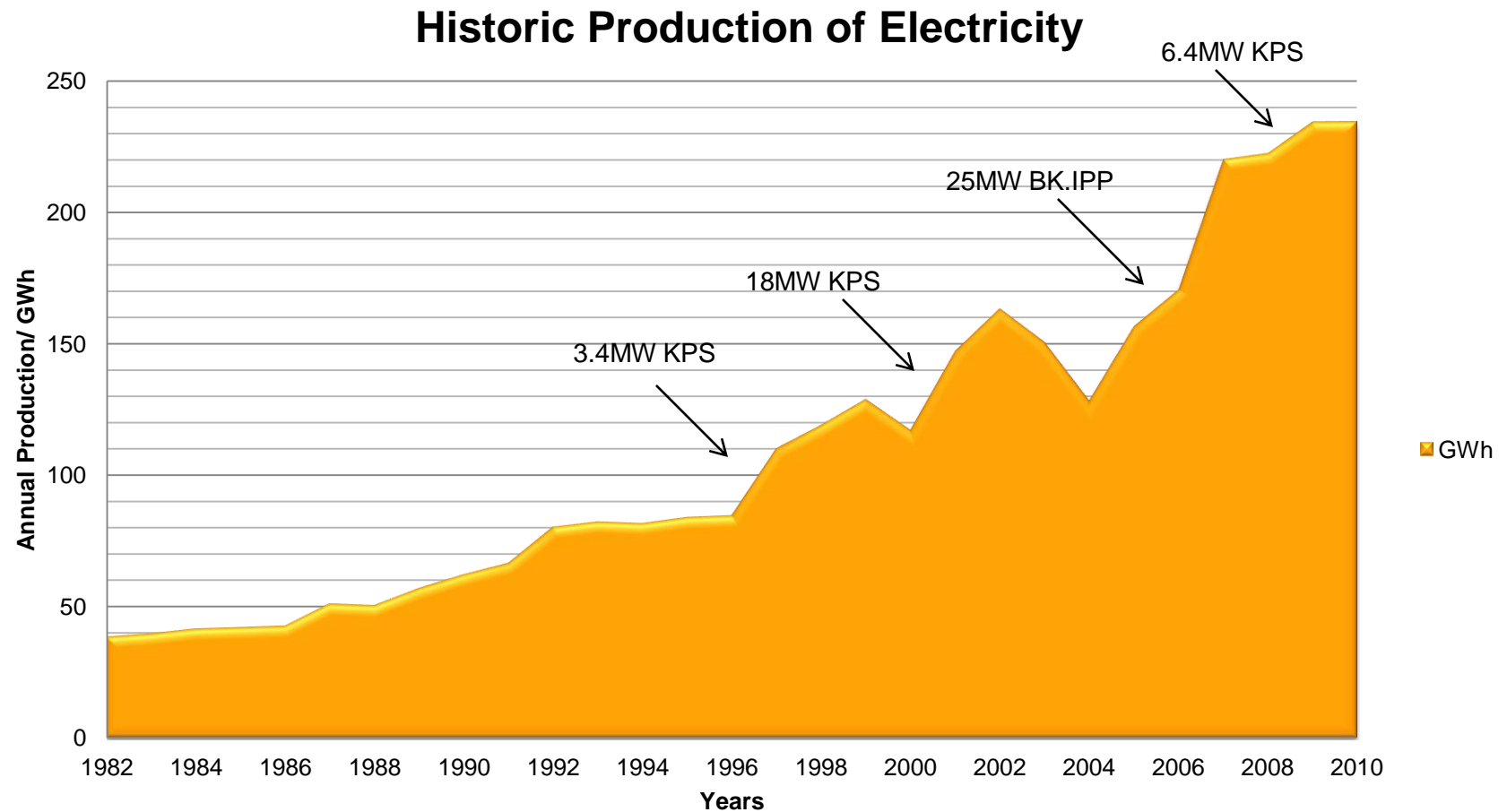
- Energy Efficiency Awareness Campaign
  - On Newspapers & Radio Programmes
  - Presentations and Demonstrations
- 2008/2011 CFL Pilot Projects
- Installed 2000 bulbs in Kanifing South
- Installed 1000 bulbs in City of Banjul
  - Switched for free /incandescent bulbs
- Reduce domestic consumption
- Saving for consumers
- Improvement in voltage levels





# Electricity Infrastructure Issues

# Long Term Analysis



# Demand Growth

## ■ NAWEC Literature

- estimates 6MW to added annually
- KEMA Report: 2010 – 129MW

## ■ WAPP Masterplan

- 2010 –132MW (613GWh), 2020 –186MW (847GWh)

## ■ OMVG Demand

- 2010 – 110MW
- Current in Stalled Capacity is
  - 78MW
    - Available is 52MW

- Transmission Capacity (<40MW) ??

# NAWEC

## ■ Institutional Issues

- 30-yr old monopoly
- Insufficient supply

## ■ High network losses / leakages

- Consumers/ Businesses paying for losses
- High prices
  - Especially for business / manufacturing

## ■ Underinvestment

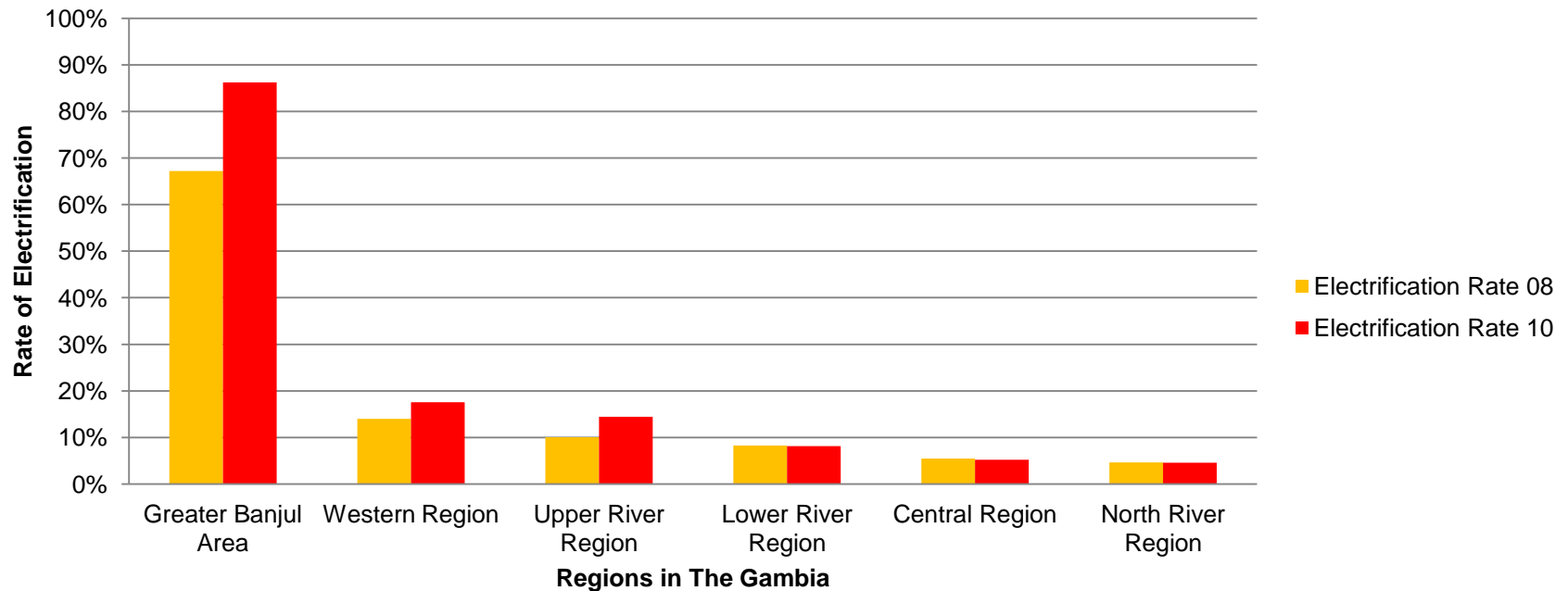
- Aging infrastructure

# NAWEC

- Owner of generation/ T&D infrastructure
- Vertically integrated company
- Government owned
  - Lack of own capital to invest
  - Difficulty in soliciting funding
- Services
  - Electricity
  - Waters (urban)
  - Provincial Towns & large villages
  - Sewerage (Banjul & Hotel Area)

# National Electrification

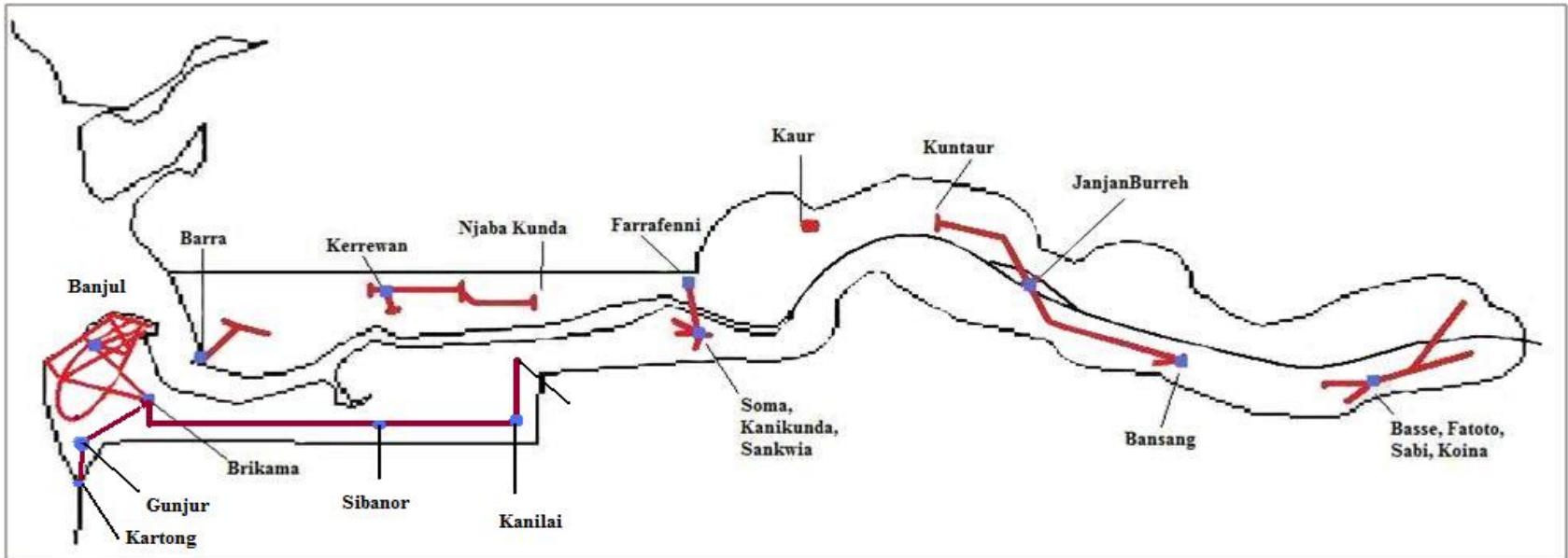
**Electrification Rates by Region  
2008-2010**



GBOS/NAWEC



# National Electrification



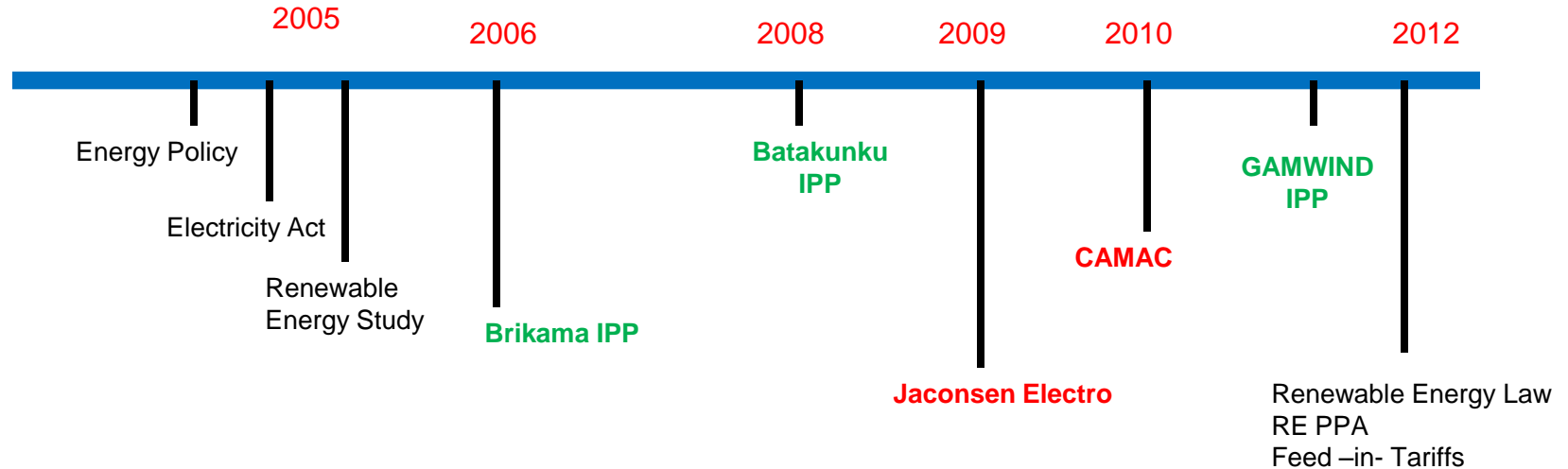
- Network more developed along the coast
- Some Rural Stations:
  - Only 180kW (Kaur)
    - Strong Potential for RE hybrid solutions



# The Market Structure

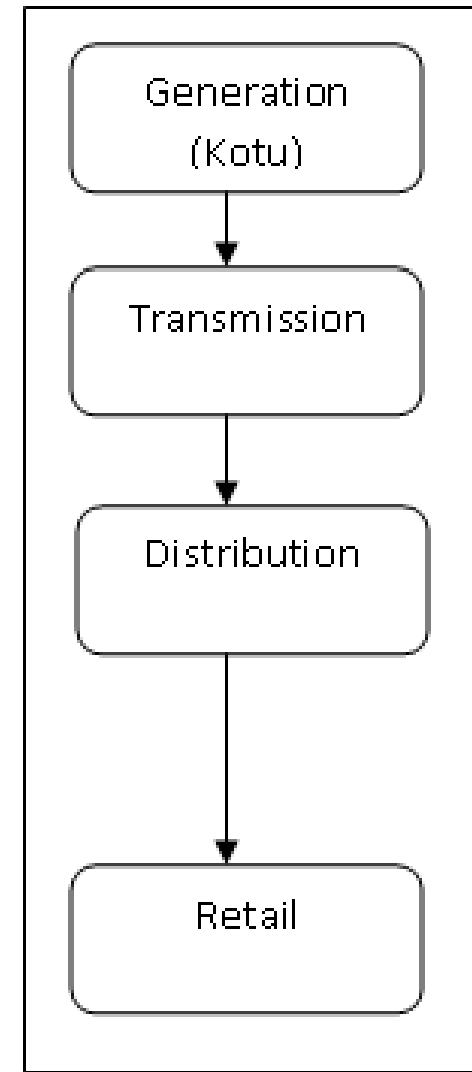
*an opportunity for the private sector*

# IPP Timeline



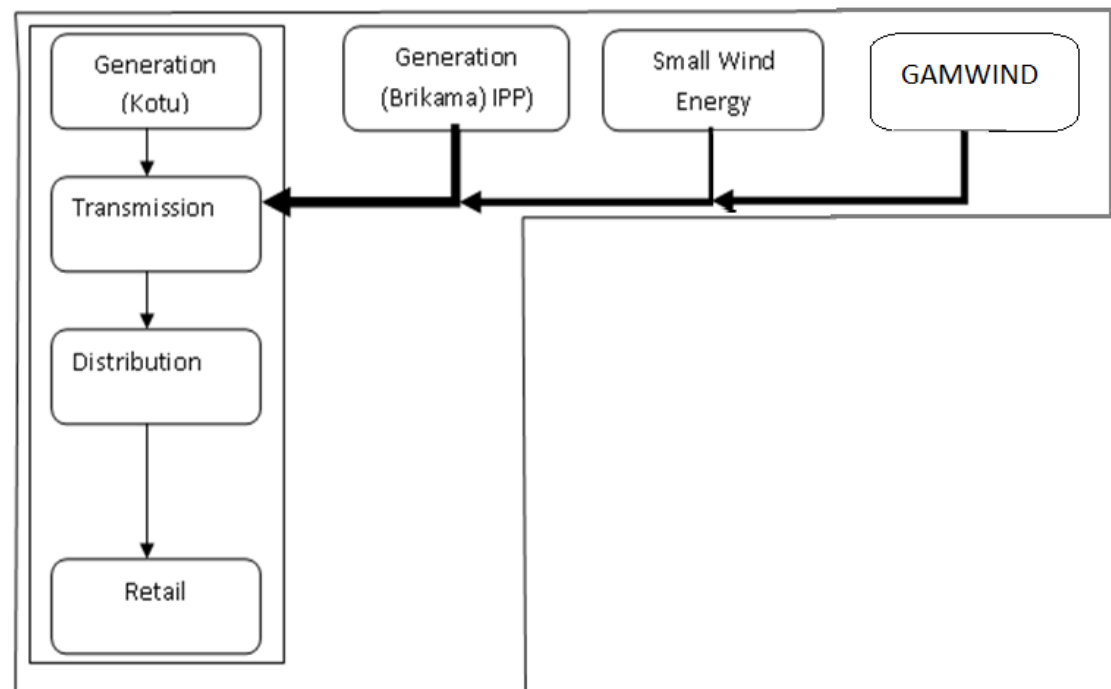
# Pre-2005

- National Energy Policy
- NAWEC was the sole player.
- Annual Prod.
  - 157 million kWh
  - Annual Revenue
    - D700m



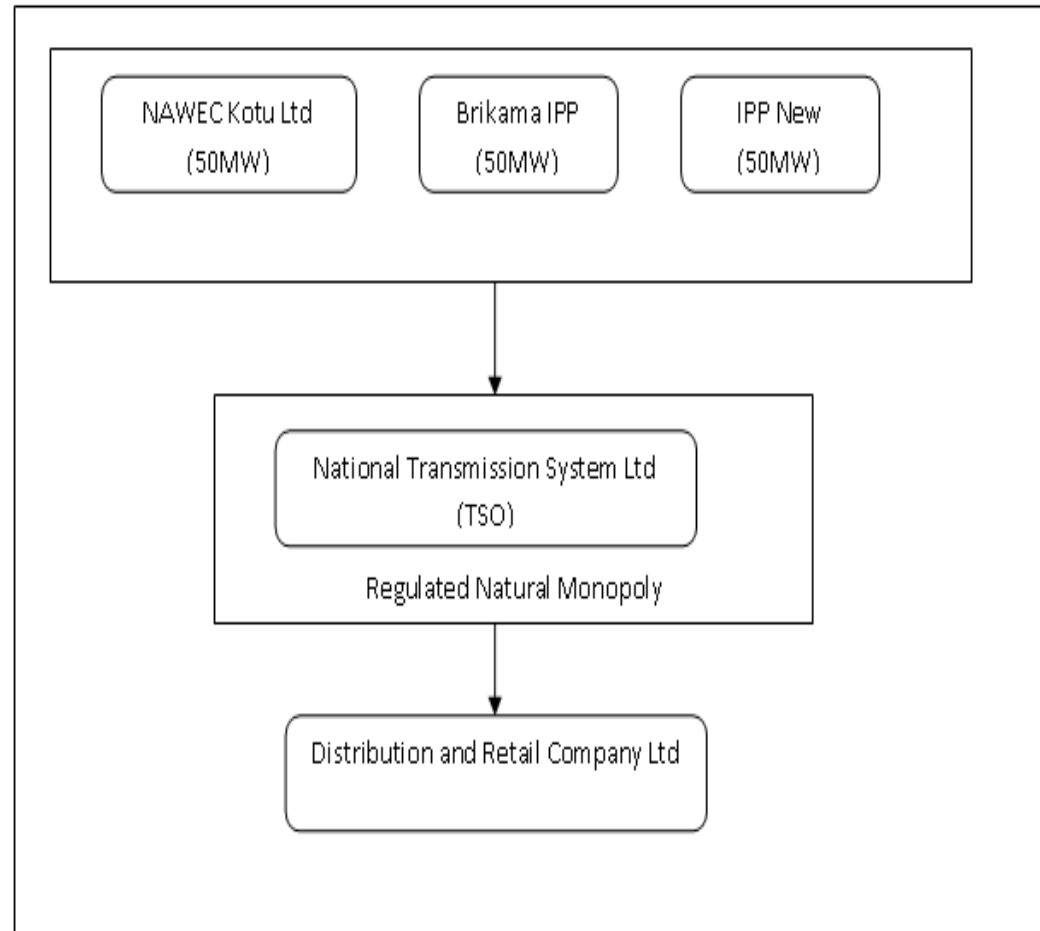
# Current Situation

- Annual Prod.
  - 240 million kWh
- Annual Revenue
  - >D1.4bn
- Increasing Renewable Energy in the mix



# Market Evolution/ Opportunities

- Competition in generation
- More IPPs
- Market based prices
- Cheap electricity costs



# IPP Experience

## ■ Brikama

### □ 25MW

- 16MW max available
- 60% of Gen.

### □ Benchmarking

- More eff. than Kotu
  - Own Con. (2.9%)

### □ Review of Contract

- Can be improved

## ■ Unsolicited offers

### □ Investors set terms for government

- From 1994 -2012
- 52 un-solicited bids
- Only one has been implemented
  - Thames Energy (6yrs),
  - FRAMA S.A, NOVONO Ltd. Etc
- CAMAC (Renewable)
- Munich RE / Kronos (Renewable)

# Conventional IPP Huddles

- All unsolicited bids have one thing in common
  - Credibility of NAWEC to pay for future power costs
  - Risks of fuel indexation
  - Request for a Sovereign Guarantee
  - Govt. unable to provide such guarantee
    - WB/IMF conditions
    - Poor fiscal situation
  - All negotiation never get pass PPA level



# Renewable IPP Huddles

- Mixed progress
  - Credibility of NAWEC not really an issue
  - No request Sovereign Guarantee
  - However negotiations seem to favour developed
  - High comparative tariffs
    - Determining 'appropriate' tariffs is a challenge
      - Both present and future

# Wind Experience



# 2012 Tariff

Electricity				
Customer Category	Current Tariff D/kWh	New Tariff	% increase	US \$ /kWh
D/kWh	D/kWh	D/kWh		
Approved Domestic (prepayment flat)	7.20	9.10	26%	0.28
Commercial	8.60	9.70	13%	0.30
Hotel / Club / Industries	8.95	10.40	16%	0.33
Agriculture	8.00	9.10	14%	0.28
Area Councils	8.70	9.70	11%	0.30
Central Government	8.70	9.70	11%	0.30



# Recommendations

# Future Activities

- Large scale Renewable
- NAWEC should be involved
- Feed –in- Tariff
  - Would eliminate extensive PPAs
  - RE Law would be very useful
  - PURA would continue to play a leading role